MONTANA PETROLEUM TANK RELEASE CLEANUP FUND

REASONABLE COST CEILINGS

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CHAPTER ONE - General Guidelines

This document has been created in order to create process and economic efficiencies through the streamlining of the corrective action and claims reimbursement processes. It is intended to speed the processing of claims by clearly identifying tasks and their associated costs so that the time involved with review of claims will be substantially reduced. It is further intended to establish a reasonable rate for a majority of work for which owners, operators or their designees may seek reimbursement. Claims for reimbursement in which costs exceed the reasonable rates established in this document will not be reimbursed except in rare circumstances where events precluded approval of the costs or work by the board staff or the department.

This document addresses most, but not all activities involved in the investigation and cleanup of petroleum releases. For those remedial or corrective action tasks that can be subcontracted and for which a reasonable cost is not listed in this document, the three-bid requirement will apply and claims for reimbursement will be analyzed for compliance with statutory and regulatory requirements, including the actual, necessary and reasonable requirements of section 75-11-309, MCA.

Standard supporting documents, as described in the Claims section of this document and in the regulations, are required for all costs submitted for reimbursement.

Consultants and contractors contract directly with the claimant, not the Board. This document is not intended to remove the element of competition or freedom of choice from the environmental remediation industry. The choice in selecting a consultant or contractor is the responsibility of the claimant, as is the ultimate responsibility for paying for costs incurred. The fact that the cost is within the cost ceilings does not mean that the work was necessary or contributed to the advancement of the cleanup of a particular site or that it is eligible for the Fund. All costs submitted for reimbursement will be evaluated based upon the information available at the time of review.

Any mention of brand names or specific technologies is not an endorsement of that brand or technology by the State of Montana, the Board, or any of the staff. The mention of brands and names is purely for illustrative purposes.

How to use this document:

The Cost Ceilings consist of five chapters: 1) General Guidelines; 2) Cost Ceiling Descriptions; (3) A list of nonreimbursable items/tasks; 4) Claims information and (5) a table of costs associated with the items described in (2).

When the Montana Department of Environmental Quality (department) informs an owner or operator that due to a release of regulated substances remedial activities must be undertaken, a workplan and a budget for those activities must be submitted and approved. Environmental consulting firms are required to submit a workplan and budget to the department for approval before the requested work is performed.

Remedial activities generally consist of a series of tasks and subtasks performed by a remediation consultant or its subcontractors. The tasks and subtasks are described in this document and the amount reimbursed for any particular activity is based on a unit or project cost (see description

below). Claims for reimbursement may be made after any individual task or subtask is completed provided the amount of the claim exceeds one thousand dollars.

The budget submitted with any required workplan will consist of unit costs, project costs and bid costs (if applicable). As an example a budget for a standard format workplan to install and sample 4 two-inch groundwater monitoring wells would include costs for the workplan itself (item 5); drill rig mobilization (item 9); drilling (item 18); drilling project management time (item 61); consultant travel (item 74); consultant monitor well development (item 28); sampling (item 35); per diem and lodging (items 71 and 72); lab analysis (actual cost); and a report (item 56.).

1) Unit costs: A unit of service, activity, or product is delivered for a set cost. Examples include free-product removal, copies or an hourly rate for a consultant's staff person. Where applicable, these costs must be accompanied by an invoice from a subcontractor (analytical, drilling, rental shop, etc.).

Costs are listed for common goods and services used in corrective actions. Listed costs do not include any markups that may be added by a primary (prime) contractor. Use these costs as a comparative guide when evaluating costs presented in bids or estimates received from consultants or contractors.

Exercise caution when applying unit costs. Just because a unit cost is listed does not mean it is reasonable to extend that cost over the entire range of activities. Such things as "economy-of-scale" must be considered. If extensive work is required, a lower rate can often be negotiated.

2) Project Costs: A project cost is typically an aggregate of unit costs such as: consultant billing hours, equipment rental, and subcontractors, or it may be simply consultant labor. Listed project costs generally describe a level of effort required to perform certain tasks. More than one project cost may need to be referenced to account for all work in a given budget submission.

3) General guidelines: A description of various Fund guidelines, standard practices, and statements on how the Fund addresses issues concerning reimbursement. General information intended to be helpful, but not necessarily directly tied to certain costs, is included in this section.

4) Department guidance materials: The department has adopted guidance materials for Emergency Response Actions. Workplans, Reports and Monitor well sampling that provide detailed requirements for the various tasks it commonly requires. Reimbursement for the costs of these activities is based on these guidance materials. Work not requested by the department or performed beyond the scope of the appropriate guidance document will not be reimbursed by the Board.

Revision of this guide:

The Board has made a concerted effort to prepare a document that will meet the needs of all of our claimants. We will be making a continuous effort to keep the guideline current and responsive to changes in the industry and regulatory aspects, as well as cost changes in Montana. As specific issues or changes come up, periodic additions or supplements may be prepared and incorporated. Major revisions will not occur more often than every two years. In the absence of specific data justifying an increase in any specific cost, the Board will consider an adjustment based on the Consumer Price Index as reasonable.

Contact the Board:

The Board staff policy is to be very responsive to requests for assistance from claimants. If you have any questions, need additional assistance, are unsure of an item reimbursement status, need some assistance finding consultants, getting bids or understanding regulatory directives, please contact the staff. We will try to assist you; if we cannot help, we will try to direct you to someone who can. For assistance call your specific staff contact person.

For the most complete and up-to-date information on the Fund, and copies of public documents (including this one), visit our World Wide Web site at:

http://www.deq.state.mt.us/pet/index.asp

CHAPTER TWO – Cost Ceiling Descriptions

A. Emergency Response Actions and 30-Day Release Reporting Guidelines

Upon confirmation of a release of petroleum or in response to a suspect release, owners and operators must initiate initial response and abatement measures. These activities shall consist of limited investigative and assessment actions of sufficient scope and level of effort to make or guide determinations on appropriate release response actions at a facility. Initial response and abatement activities may include the following:

Evaluation of records relating to the release
Evaluation of underground storage tank system testing results
Testing or retesting of underground storage tank systems
Evaluation of environmental monitoring data
Limited sampling and analysis of soil, groundwater, vapor and
Any other limited investigations, monitoring, surveys, testing or information gathering activities necessary to evaluate releases and suspect releases of petroleum excluding emergency response actions.

1. 30-Day Release Reporting Requirements

Owners and operators must provide the department with a report of their initial response and abatement measures within 30 days of notification of the release or suspect release. The objective of initial response and abatement measures is to obtain preliminary information and data on a release or suspect release in order for the department to make an informed decision concerning the most appropriate path forward. Completion of the 30-Day Release Report is required in order to:

Determine the existence, source, nature and approximate extent and magnitude or the release
Determine if the release poses or could pose an imminent threat to human health
Determine if an emergency response action is necessary
Identify parties who are responsible or potentially responsible for the release
Obtain information and data needed to support a Phase I Remedial Investigation
Determine if the release or suspect release qualifies for closure

The 30-Day Release Report is designed to be completed by the owner or operator. The Board will not reimburse any costs associated with the completion or submission of the 30-Day Release Report.

2. Emergency Response Actions

Most releases do not require immediate action to prevent fire, explosion or environmental impacts from large volumes of free product. However, when a release does pose immediate health and safety concerns, department regulations require owners and operators to take immediate action to prevent further release of the regulated substance and contain or remove as much of the regulated substance to mitigate risk to human health and reduce impacts to the environment. The department has adopted regulations and guidance materials that must be followed.

Emergency response actions do not require formal workplans, but after 48 hours all work must be

preapproved. These are usually actions such as free product removal or excavation of severely impacted soils and groundwater to mitigate potential or imminent threat to human health. Emergency response actions and abatement measures are not intended to replace corrective action or to eliminate the need for a corrective action workplan. Excessive soil excavation as part of initial response actions can lead to unnecessary and unreasonable costs if it is used to bypass investigation and corrective action plan implementation.

The Board has seen over-excavation involve thousands of cubic yards of soil that should have been subject to a corrective action workplan. Without proper sampling, characterization, department oversight, workplans, and consideration for cost-effectiveness, excessive and unreasonable costs may be incurred. A clear distinction must be made between emergency response actions and full-scale remedial action. The Board will only reimburse the costs of the most cost-effective remedial action. **No more than 100 cubic yards (or 125 tons) of contaminated soil may be removed during an emergency response action without receiving approval from the department.** All costs incurred during an emergency response will be reimbursed based on these Reasonable Cost Ceilings.

B. Workplans

Section 75-11-309, MCA, requires owners and operators to conduct an initial response to a release, to conduct a thorough investigation of the release and to submit for department approval a corrective action plan to the department, if it determines it necessary. ARM 17.56.604 also requires owners and operators to submit a plan for the remedial investigation to the department. Section 75-11-309, MCA also limits reimbursement to those costs actually, necessarily and reasonably incurred for the preparation or implementation of a corrective action plan approved by the department.

The department must approve all workplans. If a workplan is submitted for approval that does not meet DEQ requirements, it must be modified until it conforms to the guidance provided by the department. Unless the department asks for modifications that are not included in the guidance for the workplan requested, no additional costs will be reimbursed for modifications of a workplan.

The majority of workplans prepared for a site will be for routine tasks such as site investigation and groundwater monitoring activities. For tasks of this nature, the department will, in most cases, only request an Abbreviated Workplan. Abbreviated Workplans are typically required for sites with limited contamination that has been reasonably well defined. Abbreviated Workplans may also be requested for complex sites with extensive contamination when the department's release file already contains extensive site information or when a more detailed report will be generated after the proposed work has been completed. Abbreviated Work Plans must be developed according to the appropriate guidance provided by the department.

3. Abbreviated Work Plan: This plan includes an introductory paragraph containing reference to PRS request for abbreviated workplan, the purpose of proposed event, the workplan budget using the form in Section 5, the consultant's name, address and telephone number, email address and the specific items identified below. (per plan)

a. Soil excavation only

In addition to the items identified in 3, this Abbreviated Workplan includes a scope and schedule paragraph specifying the quantity (banked cubic yards or tons) of soil to be excavated, disposed, or remediated, and if applicable, the number and location of soil and samples to be collected, laboratory analysis proposed, and approximate date of field activities.

b. Groundwater monitoring

In addition to the items identified in 3, this Abbreviated Workplan includes a scope and schedule paragraph specifying the monitoring wells that are to be sampled, number of samples to be collected, sample collection method proposed (purge, no-purge, hand bail, peristaltic pump, etc.), laboratory analysis proposed, and approximate date of field activities.

c. Soil boring and monitoring well installation (1 to 4 wells)

In addition to the items identified in 3, a scope and schedule paragraph specifying the borings that are to be completed, and if applicable, the number of soil and groundwater samples to be collected, locations of soil samples, groundwater sample collection method proposed (purge, no-purge, hand bail, peristaltic pump, etc.). The paragraph should also specify the laboratory analysis proposed and the approximate date of field activities. If more than 4 wells are installed at the time the 1 to 4 wells are installed no additional workplan costs will be reimbursed. Additional reimbursement would be allowed for the additional wells installed and for additional report costs, if any on a per well basis (see report section item no. ___.

d. Abbreviated Work Plan: Monitored Natural Attenuation

e. Abbreviated Work Plan: System Decommissioning

f. Abbreviated work plan: Landfarm sampling

4. Abbreviated Work Plan: other tasks

5. Standard Format Work Plan:

The department may require a more extensive workplan for complicated or technically advanced tasks such as groundwater modeling, pilot tests and feasibility studies. Standard Format Workplans for tasks of this nature require a higher level of detail including a complete site history, site assessment summary, scope of work and methods discussion. The type of workplan requested by the department will depend upon the site conditions, data needs and the nature of the proposed work.

A certain amount of detail is required in all work plans. The department has developed technical guidance documents that detail individual workplan content requirements. A large amount of this detail is duplicated from workplan to workplan. The facility location, geology, hydrogeology and sampling protocols should not change significantly. Certain sections of some workplans may be excerpted from other workplans or reports with little or no modification (e.g., sampling protocol followed for drilling or groundwater sampling,

QA/QC procedures, etc.). The tables and maps need to be updated, for example from Phase I Remedial Investigation to Phase II Remedial Investigation data, but no major changes are normally needed. The appendices of the document may be from other sources (e.g., sample results from the laboratory) or duplicates (e.g., standard sampling protocol followed). Word processors allow this information to be duplicated without repeating the initial effort in preparing subsequent workplans. Once a Phase I Remedial Investigation work plan is prepared for a site, subsequent workplans should take less time, effort and cost to prepare. (per plan)

a. Soil Borings

b. Monitoring Well completion

This task consists of the total personnel, equipment, and material cost, per approved work plan, required to prepare a site-specific work plan as required by MDEQ. This plan includes property background, UST history discussion, and discussion of proposed activities and preparation of cost estimates and budgets. Costs include senior level review of document, clerical support, and all other direct costs such as copying, binding and postage. The task includes modification, revisions, and resubmittals necessary to obtain MDEQ approval. The task does not include mileage, per diem, or other out-of-office expenses.

c. Test pits

d. Soil Excavation

This task consists of the total personnel, equipment, and material cost, per approved work plan, required to prepare a site specific work plan as required by MDEQ. This plan includes property background, UST history discussion, and discussion of proposed activities and preparation of cost estimates and budgets. Costs include: senior level review of document; clerical support; and all other direct costs such as copying, binding, and postage. The task cost includes modification, revisions, and resubmittals necessary to obtain MDEQ approval. The task does not include mileage, per diem, or other out-of-office expenses.

e. Soil Vapor Extraction

f. Monitored Natural Attenuation

g. Passive/Active

6. Standard Format Work Plan: Groundwater treatment

a. Free-Product Recovery

b. Dual-Phase recovery

c. Air/Bio-Sparging

d. Phytoremediation

e. Enhanced Bioremediation

f. Other

7. Standard Format Work Plan: Combined

C. Remedial Investigation and Corrective Action Activities

CONTRACTOR DRILLING-RELATED ACTIVITIES

Soil boring and sampling mobilization/demobilization activities

The tasks listed below (item description nos. 8 through 10) consist of the total personnel, equipment and material cost per mile for mileage to and from the drilling location, include all costs associated with preparation and loading of all appropriate equipment, materials, and supplies, including support vehicles initial rig and support vehicle travel to and from the site, site clean-up and return to the yard. Note: these are one-time charges per event and do not pertain to drill crew travel on a daily basis.

8. Hollow stem auger drilling method (per mile)

9. All other drilling methods: air rotary, rotosonic (per mile)

10. Soil boring and sampling daily travel rate (per mile)

This task consists of the total personnel, equipment and material cost per mile for drill crew travel to and from the site on a daily basis.

Soil boring and sampling

The tasks listed below (item description nos. 11 through 15) consist of the total cost per foot per boring for the following items/activities performed in accordance with MDEQ guidance current at the time work is performed and applies to all footage drilled. These tasks include: drill rig, support vehicles and crew; soil sampling at intervals of five to ten feet; decontamination procedures; sampling equipment; moving between borehole locations; associated sample collection and preservation materials; and drilling consumables/bits. Tasks do not include: concrete coring; mobilization/demobilization; travel; or storage, transportation and disposal of investigation-derived waste.

11. Hollow stem auger drilling method: Vertical boring (per foot)

12. Hollow stem auger drilling method: Angle boring (per foot)

13. Air rotary drilling method: Vertical boring (per foot)

14. Rotosonic drilling method: Vertical boring (per foot)

15. Soil boring abandonment by grout: All boring diameters (per foot)

This task consists of the total cost per foot per boring for the labor and materials associated with the abandonment of soil borings by grouting. Task does not include mobilization/demobilization or mileage.

WELL INSTALLATION

The tasks listed below (item description nos. 65 through 76) consist of the total cost per foot per well for the following items/activities performed in accordance with MDEQ guidance current at the time work is performed and applies to all footages. Task costs are based upon well installation using schedule 40 PVC casing and 30 feet of well screen. These tasks include: drill rig, support vehicles and crew; soil sampling at intervals of five to ten feet; decontamination procedures; sampling equipment; moving between wells; brass sleeves and associated sample collection and preservation materials; drilling consumables/bits; and well installation and well materials. Tasks do not include: concrete coring; limited access rigs; nested well configurations; mobilization/demobilization; travel; or storage, transportation and disposal of investigation-derived waste.

16. 2-inch hollow stem auger (per foot)

17. 4-inch hollow stem auger (per foot)

18. 2-inch air rotary (per foot)

19. 4-inch air rotary (per foot)

20. 2-inch rotosonic (per foot)

21. 4-inch rotosonic (per foot)

22. Monitor well surface completion: Access vaults less than or equal to 12" (per well)

This task consists of the total personnel, equipment and material cost per well required to install a three foot square or less concrete pad with traffic rated (flush) vault in accordance with applicable standards. Task does not include mobilization/demobilization or travel.

CONTRACTOR MONITOR WELL DEVELOPMENT AND ABANDONMENT

The tasks listed below consist of the total contracted personnel, equipment, and material cost per well required to develop a newly installed monitor well in accordance with industry standards and state regulations and includes all appropriate surface and downhole equipment, field instrumentation, and decontamination equipment. Tasks do not include low yield wells; mobilization/demobilization/travel; typical site clean-up; purging associated with groundwater monitoring and sampling; or storage, transportation and disposal of installation-derived waste.

23. 2-inch monitor well: Depth to water less than 50 feet (per well)

24. 2-inch monitor well: Depth to water equal to or greater than 50 feet (per well)

25. 4-inch monitor well: Depth to water less than 50 feet (per well)

26. 4-inch monitor well: Depth to water equal to or greater than 50 feet (per well)

27. Well abandonment (Per foot)

    This task includes all labor and materials to properly close a monitoring well in accordance with Montana Department of Natural Resources and Conservation requirements.

CONSULTANT ACTIVITIES

MONITOR WELL DEVELOPMENT AND ABANDONMENT

The tasks listed below consist of the total personnel, equipment, and material cost per well required to develop a newly installed monitor well in accordance with industry standards and state regulations and includes all appropriate surface and downhole equipment, field instrumentation, and decontamination equipment. Tasks do not include low yield wells; mobilization/demobilization/travel; typical site clean-up; purging associated with groundwater monitoring and sampling; or storage, transportation and disposal of installation-derived waste.

28. 2-inch monitor well: Depth to water less than 50 feet (per well)

29. 2-inch monitor well: Depth to water equal to or greater than 50 feet (per well)

30. 4-inch monitor well: Depth to water less than 50 feet (per well)

31. 4-inch monitor well: Depth to water equal to or greater than 50 feet (per well)

32. Well abandonment (Per foot)

This task includes all labor and materials to properly close a monitoring well in accordance with Montana Department of Natural Resources and Conservation requirements.

GROUNDWATER MONITORING AND SAMPLING

33. Groundwater monitoring field equipment day rate (per day)
(Purging is required)

This item includes necessary purging and sampling equipment and instrumentation (i.e., pump, generator, bailers, ropes, organic vapor analyzers, pH/temperature/conductivity meter(s), mobile phone, water level measurement device).

34. Groundwater monitoring field equipment day rate (per day)
(Non-purging)

This item includes sampling equipment and instrumentation necessary during a non-purging sample event (i.e., bailers, ropes, organic vapor analyzers, pH/temperature/conductivity meter(s), mobile phone, water level measurement device).

COMPLIANCE SAMPLING METHODOLOGY

(Purging is required)

The tasks listed below consist of the following field activities: well purging and compliance sampling in accordance with MDEQ guidance current at the time of the sampling event, sample storage and collection of static water level data. These tasks assume a minimum recharge of 80% recovery in 60 minutes prior to groundwater sample collection. These tasks include all necessary groundwater sampling equipment, field time and task-specific project management.

35. 2-inch monitor well: Depth to water less than 50 feet (per well)
36. 2-inch monitor well: Depth to water equal to or greater than 50 feet (per well)
37. 4-inch monitor well: Depth to water less than 50 feet (per well)

38. 4-inch monitor well: Depth to water equal to or greater than 50 feet (per well)

INVESTIGATIVE SAMPLING METHODOLOGY

(Purging is not required)

39. Investigative sampling, all well diameters (per well)

This task consists of the following field activities: investigative well sampling in accordance with MDEQ and EPA guidance current at the time of the sampling event, sample storage and collection of static water level data. This task is per event and is independent of well diameter, depth of well and depth to water. This task includes all necessary groundwater sampling equipment, field time and task-specific project management.

40. Consultant fluid level monitoring (per well)

This task includes the total personnel, equipment, and material cost per well for on-site collection of free product and/or groundwater elevations, measurement of free product thickness and task-specific project management.

41. Free product removal via hand bailing or hand pumping (per well)

This task consists of the total personnel field time, equipment, material cost per well required for manual free product removal and task-specific project management. This rate includes time to transfer fluid into proper containment as well as personnel time to tabulate product recovery data.

42. Free product removal via dedicated removal device (per well)

This task consists of the total personnel field time, equipment, and material cost per well required for emptying a dedicated removal device (i.e., skimmer, product canister) and task-specific project management. This rate includes time to transfer fluid into proper containment as well as personnel time to tabulate product recovery data.

Corrective Action Activities

Soil related activities

Soil related work will be paid at the actual cost not to exceed the ceiling amount listed in the rate schedule in Chapter 5. If soil cannot be weighed, the Board will convert cubic yards to tons by multiplying the number of cubic yards by a factor of 1.25.

43. Remedial excavation (per cubic yard)

This task consists of the total actual cost per cubic yard for bulk soil excavation (contaminated soil) for all yardage. Task includes total personnel and equipment necessary to complete soil excavation and loading of non-containerized bulk soil. Task does not include trenching around utility lines and/or building foundations. Segregation of clean and contaminated soil, and stockpile characterization are very important. The Board will not reimburse costs for remediation of non-contaminated soil.

44. Bulk soil transportation (per ton)

This task consists of the total cost per ton for bulk soil transportation of contaminated soil, clean soil, or imported backfill [all tonnages].

45. Backfill and compaction (per ton)

This task consists of the total cost per ton for total personnel and equipment costs necessary to backfill and compact a remedial excavation. This task includes all mobilization/demobilization of personnel and equipment. This task is based on the use of import backfill material.

46. Waste characterization (per event)

Task includes preparation of waste characterization paperwork for client signature(s) (i.e., manifest, profile sheets), task-specific project management and oversight, bidding, coordination, scheduling and field supervision of the removal and disposal of non-hazardous waste. This task assumes the proper required analytical laboratory result has been used to characterize the specific liquid or solid contaminated waste. Documentation of this activity must be submitted to the department. This task does not include analytical cost.

47. One-time only landfarm disposal

This task consists of the total cost per cubic yard for disposal of petroleum contaminated soil (PCS) at a properly permitted one-time only landfarm facility. This task does not include mobilization/demobilization or transportation costs for equipment and/or personnel.

48. Landfill disposal of petroleum contaminated soil (per ton)

This task consists of the total cost per ton for landfill disposal of petroleum contaminated soil (PCS) at a properly permitted landfill facility. This task does not include mobilization/demobilization or transportation costs for equipment and/or personnel.

49. Thermal remediation of petroleum contaminated soil: Ex-situ, on-site, using a portable facility (per ton)

This task consists of the total cost per ton for on-site, ex-situ thermal remediation of PCS

using a permitted portable facility.

50. Thermal remediation of petroleum contaminated soil: Ex-situ, off-site, utilizing a fixed facility. (per ton)

This task consists of the total cost per ton for off-site, ex-situ thermal remediation of PCS using a permitted fixed facility.

51. Bioremediation of petroleum contaminated soil: Ex-situ, off-site, utilizing a fixed facility. (per ton)

This task consists of the total cost per ton for off-site, ex-situ bioremediation of PCS at a permitted fixed facility. This task does not apply to on-site portable bioremediation facilities.

52. Construction and installation of soil and/or groundwater remedial system (per event)

This task consists of the total contractor personnel, equipment and material required for installation of a turnkey soil and/or groundwater remedial system. The task includes transportation and disposal of construction debris. This task requires a minimum of three bids. (See General Notes)

53. Remedial system operation and maintenance (O&M) (per month)

This task includes the total personnel, equipment, and material cost to operate and maintain remedial systems. Task activities include project management, regularly scheduled system checks, periodic air/vapor sampling events, monthly electrical service fees, routine repairs such as rebuilding electric motors, regular maintenance such as emptying passive bailers, disposal of treated groundwater, disposal of recovered product, air stripper cleaning, draining knockout tanks, system winterizing and expendable items such as air compressor filters, skimmer belts and activated carbon exchange. This task does not include utility costs, mileage, major repairs, extensive trouble shooting or analytical fees.

Repairs resulting from negligence or vandalism, extensive troubleshooting or modifications resulting from system design or construction flaws are not considered eligible for fund reimbursement. Other ineligible remedial system costs include expenses associated with relocation of the remedial system or system components due to facility expansion, construction or resurfacing activities. Costs associated with initial system start-up must be included with system design and construction activities. Costs associated with system performance monitoring and reporting such as measuring SVE effluent concentrations, measuring subsurface pressure, soil gas and dissolved oxygen measurements must be included with regularly scheduled site monitoring activities and monitoring reports.

It is expected that system O&M events will occur concurrently with other site activities or concurrently with scheduled field events the contractor may conduct at other sites in the area. In the interest of cost efficiency, travel expenses associated with this task must not exceed 10% of the total task budget. Excessive travel as part of remedial system O&M can lead to unnecessary and unreasonable costs if the contractor and remedial site locations are

a significant distance apart. For example, excessive travel costs occur when an environmental engineer located in Missoula travels to a remedial site in Glendive to perform routine tasks that can be adequately accomplished by less skilled personnel local to Glendive.

The Fund has seen remedial system O&M work plans involve contractor travel costs greater than 50% of the total task budget. Cost effective O&M procedures must be utilized to the fullest extent possible. In the case of reducing contractor travel and labor costs, a system O&M procedural manual should be developed that will allow subcontracting local personnel who can adequately conduct routine system O&M by following the manual procedures. The fund will only reimburse for the amount of the most cost-effective remedial system O&M practices.

REPORTING ACTIVITIES

Throughout the process of investigation and remediation of a release from an underground storage tank, many reports will be prepared and submitted to the department. The majority of reports prepared for a site will be for routine tasks such as site investigation and quarterly groundwater monitoring activities. For tasks of this nature, the department requires Abbreviated reports that contain a minimal amount of information. Abbreviated reports may also be utilized for sites with limited, well-defined contamination, complex sites with extensive contamination when extensive site information already exists; or as a method of conveying interim data to the department.

The department may require a more extensive report for a complicated site, such as one with extensive groundwater contamination from multiple sources or where contamination poses imminent threats to receptors. Standard format reports for sites of this nature require a higher level of detail including a complete site history, site assessment summary, risk evaluation, conclusions and recommendations. The level of effort and detail necessary for each type of report will vary depending upon the site conditions, the scope of work conducted and the department requirements.

The department requires a certain amount of detail in all reports. A large amount of this detail is duplicated from report to report. The facility location, geology, hydrogeology and sampling protocols should not change significantly. Certain sections of some reports may be excerpted from other reports with little or no modification (e.g., sampling protocol followed for drilling or groundwater sampling, QA/QC procedures, etc.). The tables and maps need to be updated, for example from Phase I Remedial Investigation to Phase II Remedial Investigation data, but no major changes are normally needed. The appendices of the document may be from other sources (e.g., sample results from the laboratory) or duplicates (e.g., standard sampling protocol followed). Word processors allow this information to be duplicated without repeating the initial effort in preparing subsequent reports. Once a Phase I Remedial Investigation report is prepared for a site, subsequent reports should take substantially less time, effort and cost to prepare.

The following is a general summary of the content requirements for typical Abbreviated and Standard format reports, refer to the department's technical guidance documents section for detailed information concerning report content requirements:

ABBREVIATED

Section	Content
Cover Letter	Facility and contact information. Brief narrative of work conducted. Signed by the preparer and/or reviewer
Laboratory Report	Attach a complete copy of the entire laboratory analytical report.

STANDARD FORMAT

Section	Content
Title Page	Facility and contact information.
Executive Summary	Investigation results, conclusions and recommendations
Introduction	Purpose of investigation, hydrogeology description, facility location, area and site maps.
Site History	Facility ownership, description of past and present fuel storage systems, previous releases, source and location of all known and suspect releases.
Investigative Methods	Methods used to conduct all phases of site assessment activities.
Contamination Extent	Discussion of magnitude, vertical and horizontal extent of all known soil and groundwater contamination. Analytical results of all sampling conducted to date in tabular format.
Risk Potential	Discussion of contaminant migration pathways and exposure potential.
Conclusions	Summarize threat to human health and the environment.
Recommendations	Proposed future needs to reach release closure. Signed by the preparer and/or reviewer

54. Emergency Response report (per report)

This task consists of the total personnel, equipment, and material cost to prepare and submit an Emergency Response Action report. This report is to be prepared in accordance with MDEQ release reporting requirements and guidance. This task also includes a telephone call for 24-hour release notification.

55. Abbreviated Reports

This one-page letter report includes an introductory paragraph containing reference to PRS request for abbreviated report, the purpose of the event, the consultant's name, address and telephone number, email address, date of field activities and the specific items identified below.

a. Soil excavation only

In addition to the items listed in above, this report includes a paragraph specifying the quantity (banked cubic yards or tons) of soil excavated, disposed, or remediated, and if applicable, the number and location of soil and samples collected, laboratory analysis conducted and results.

b. Groundwater monitoring

In addition to the items listed in above, this report includes a summary paragraph identifying the wells sampled, number of samples collected, sample collection method, laboratory analysis conducted and results.

c. Soil boring and monitoring well installation

In addition to the items listed in above, this report includes a summary paragraph specifying the borings completed, and if applicable, the number of soil and groundwater samples collected, locations of soil samples and groundwater sample collection method The paragraph should also specify the laboratory analysis conducted with results.

d. Abbreviated Report: Monitored Natural Attenuation

In addition to the items listed above, this report includes a summary paragraph specifying the wells sampled, sample collection method and laboratory analysis conducted and results.

e. Abbreviated Report: System Decommissioning

In addition to the items listed above, this report includes a summary paragraph specifying the methods used to decommission all wiring and piping, electrical service, equipment sheds/boxes and remediation equipment. Remediation equipment must be inventoried by item name, make, model, serial number and present location.

f. Abbreviated Report: Landfarm sampling

g. Abbreviated Report: other tasks

56. Standard Format Reports

a. MDEQ-approved standard report: up to 4 soil borings (per report)

In addition to the items listed above, this task consists of the total personnel, equipment, and material cost per report required to prepare one department-approved report The report should include a conceptual site model, data collection, evaluation and documentation including all figures and reports in the format specified by MDEQ guidance. Required attachments to the report include a site location map, site plan, soil contamination map, geologic cross sections, soil sampling analytical results, laboratory reports, chain-of-custody and laboratory QA/QC. Task includes the personnel time for preparation of the report including time for review; modifications, revisions and resubmittals necessary to obtain MDEQ approval; clerical support; and all other direct costs such as copying, binding and postage. Task does not include field time for pilot and feasibility tests.

b. MDEQ-approved standard report: Incremental cost increase per soil boring (per boring)

This task consists of the total personnel, equipment, and material cost per boring required to include each additional boring over and above the four soil borings included in the

standard report.

c. MDEQ-approved standard report: Up to 4 groundwater monitor wells (per report)

This task consists of the total personnel, equipment, and material cost per report required to prepare one complete and MDEQ-approved report. The report should include a conceptual site model, data collection, evaluation and documentation including all figures and reports in the format specified by MDEQ guidance. Required attachments to the report include a site location map, site plan, soil and groundwater contamination maps, geologic cross sections, soil and groundwater sampling analytical results, laboratory reports, chain-of-custody and laboratory QA/QC reports. Task includes the personnel time for preparation of the report including time for review; modifications, revisions and resubmittals necessary to obtain MDEQ approval; clerical support; and all other direct costs such as copying, binding and postage. Task does not include field time or pilot and feasibility tests. Incremental per boring and monitor well costs may be claimed for each soil boring and groundwater monitor well over the four set forth in this task.

This report includes property background, UST history discussion, and discussion of proposed activities and preparation of cost estimates and budgets. Report costs include: senior level review of document, clerical support, and all other direct costs such as copying, binding and postage. The task includes modification, revisions, and resubmittals necessary to obtain MDEQ approval. The task does not include mileage, per diem, or other out-of-office expenses.

d. MDEQ-approved standard report: Incremental cost increase per groundwater monitor well (per well)

This task consists of the total personnel, equipment, and material cost per well required to include each additional well over and above the four groundwater monitor wells comprising a standard groundwater only or soil and groundwater.

e. MDEQ-approved standard report: Up to 4 soil borings and 4 groundwater monitor wells (per report)

This task consists of the total personnel, equipment, and material cost per report required to prepare one complete and MDEQ approved report. The report should include a conceptual site model, data collection, evaluation and documentation including all figures and reports in the format specified by MDEQ guidance. Required attachments to the report include a site location map, site plan, soil and groundwater contamination maps, geologic cross sections, soil and groundwater sampling analytical results, laboratory reports, chain-of-custody and laboratory QA/QC reports. Task includes the personnel time for preparation of the report including time for review; modifications, revisions and resubmittals necessary to obtain MDEQ approval; clerical support; and all other direct costs such as copying, binding and postage. Task does not include field time or pilot and feasibility tests. Incremental per boring and monitor well costs may be claimed for each soil boring and groundwater monitor well over the four set forth in this task.

f. Subsequent periodic groundwater monitoring report: Up through 4 groundwater monitor

wells (per report)

This task consists of the total personnel, equipment, and material cost per report necessary to complete each subsequent groundwater monitoring report. Submittal of subsequent reports should not exceed the frequency required by MDEQ. Each report must include complete description of all work completed subsequent to last periodic report, periodic water-level elevation data for each groundwater monitor and recovery well, periodic free product thickness data for each well containing free product, analytical results for groundwater sampling, site diagrams, a groundwater contaminate concentration map, up to two hydrographs, and analysis of data. Task includes the personnel time for preparation of the report including time for review; modifications, revisions and resubmittals necessary to obtain MDEQ approval; clerical support; and all other direct costs such as copying, binding and postage.

g. Subsequent periodic groundwater monitoring report: Incremental report preparation cost for each additional groundwater monitor well (per well)

This task consists of the total personnel, equipment, and material cost per well required to include each additional well in excess of the four groundwater monitor wells comprising a standard subsequent groundwater monitoring report (item description no. 125).

h. Test pits

i. Soil Excavation

This task consists of the total personnel, equipment, and material cost, per approved work plan, required to prepare a site specific work plan as required by MDEQ. This report includes property background, UST history discussion, and discussion of proposed activities and preparation of cost estimates and budgets. Report costs include: senior level review of document; clerical support; and all other direct costs such as copying, binding, and postage. The task cost includes modification, revisions, and resubmittals necessary to obtain MDEQ approval. The task does not include mileage, per diem, or other out-of-office expenses. Note: this item does not include SAF application preparation.

j. Soil Vapor Extraction

k. Monitored Natural Attenuation

l. Passive Active Vapor Survey

m. Direct Push

57. Standard report: Groundwater treatment

a. Free-Product Recovery

b. Dual-Phase recovery

c. Air/Bio-Sparging

d. Phytoremediation

e. Enhanced Bioremediation

58. Standard Format Report: Combined Activities

D. LABOR

Labor costs are included in workplan, report, groundwater monitoring and other project costs defined in previous sections of this document. When labor is not included in a project cost, primarily certain fieldwork, the labor descriptions and cost ceilings identified here apply. Some consultants, either through staffing difficulties, scheduling problems, or lack of staff may use a higher billing staff to perform task commonly performed by a lower billing staff person. This is reasonable if the billing rate is adjusted downward to correspond to the task performed. An individual's labor cost will be reimbursed on the basis of the task he or she performs, not on the basis of job title, classification or pay grade.

59. Principal level (per hour)

Tasks for principal level staff if not otherwise included in a task rate, include: direct professional staff; serve as technical expert or coordinator of large or technically complex sites; provide final review of project documents that legally bind the company; and limited site visits on complex projects. Administrative and/or professional head of organization with authority and responsibility for: conceiving and executing plans and functions of the organization; providing professional expertise not available from other staff members; normally having financial interest in the company as partial owner, investor, or stockholder; and charging a very limited number of hours per site, as in an overview of the project documents as a principal. Principals typically have advanced science degrees and 8-10 years of experience in conducting corrective actions. Task does not include per diem allowance.

60. Senior level (per hour)

Tasks for a senior level staff, if not otherwise included in a task rate, include: multiple project management/oversight; limited work plan and final report preparation/review on complex sites; development and oversight of project budget; work plan review; coordinate with MDEQ, client and contractors; hydrogeologic and contaminant modeling; equipment specification review; occasional site visits during site characterization activities; perform field activities during complex remediation activities; and supervise complex remediation activities. Senior level staff typically have advanced science degrees and 6-8 years of experience in conducting corrective actions. Task does not include per diem allowance.

61. Project level (per hour)

Tasks for project level staff, if not otherwise included in a task rate, include: work plan preparation; field work preparation and planning; occasional site visits during site characterization activities; perform field activities during complex remediation activities; report preparation and review; data review and analysis; equipment selection and design;

supervision of UST soil and groundwater characterization and remediation activities; and oversight of waste characterization, transportation, and disposal. Project level persons are generally responsible for the activities at any given site and are directed by senior level staff or Principals. Project level staff typically have bachelor's degrees in science with 3-5 years experience in conducting corrective actions. Task does not include per diem allowance.

62. Entry Level Scientist level (per hour)

Tasks for an entry level scientist, if not otherwise included in a task rate, include: report preparation; remediation system installation, operation, and maintenance; site reconnaissance and mapping; obtain site access; installation of soil borings, groundwater monitoring wells and remedial injection and extraction wells; supervise technicians and subcontractors, groundwater sample collection, soil removal, and other on-site remediation activities; assist with waste characterization, transportation, and disposal; and assist in modeling and data analysis. Entry level scientists typically have an engineering/geology degree and at least 1-3 year's experience in conducting corrective action. Task does not include per diem allowance.

63. Field level -Technician III (per hour)

Tasks for field level staff, Technician III, if not otherwise included in a task rate, include: field activities associated with periodic groundwater monitoring and monthly static water level/free product gauging, well purging and development, free product removal, sample collection, limited contractor supervision, field equipment/sample preparation, decontamination, and other routine field activities. Technician III level staff typically have a high school diploma, are certified or licensed trades-persons, or an Associates degree. Requires more than 4 years of experience in environmental field. Task does not include per diem allowance.

64. Field Level – Technician II (per hour)

Tasks for a field level staff, Technician II, if not otherwise included in a task rate, include: Typical duties include: field work; performing operation and maintenance on treatment systems and maintains record logs; collect soil and water samples and maintains all necessary records; assist in report preparation; works under supervision to evaluate, select and apply routine techniques, procedures, and criteria related to site investigation and remediation projects. Technician II level staff typically have a high school diploma or are certified or licensed trades-persons. Requires more than 2-4 years of experience in environmental field. Task does not include per diem allowance.

65. Field Level – Technician I (per hour)

Tasks for a field level staff, Technician I, if not otherwise included in a task rate, include: Typical duties conducted under close supervision include: routine labor associated with system installation, maintenance and repair of machinery, monitoring, well development and sampling, soil sampling, PSH removal and monitoring. Technician I level staff typically have a high school diploma. Entry level position requiring familiarity with techniques, but little experience. Task does not include per diem allowance.

66. Technical level: CAD, computer map production (per hour)

Tasks for technical personnel, if not otherwise included in a task rate, include: CAD work; generation of new drawings, maps and plans; and revisions to existing drawings, maps, and plans. Task includes computer and software. Task does not include per diem allowance.

67. Word processor (per hour)

Tasks for word-processing staff, if not otherwise included in a task rate, include only word processing associated with productions of reports. Task includes computer and software.

E. Miscellaneous expenses

68. Copies (per page)

69. Per diem requirement (miles)

The minimum (one-way) distance from the nearest applicable office to the site that a consultant/contractor must travel to be eligible for per diem is 15 miles. Consultant must be in travel status for at least three (3) continuous hours.

70. Fieldwork per diem without overnight stay (per day)

Per diem without overnight stay will be paid at the rates set forth in section 2-18-501, MCA.

71. Fieldwork per diem with overnight stay (per day)

Fieldwork per diem with overnight stay (including lodging) is applicable to both consultants and contractors.

72. Lodging (per day)

An overnight stay is appropriate when time and/or distance prevents a return home at the end of a workday. The cost of lodging must be documented with the lodging company's receipt. Credit card receipts are not acceptable.

73. Lodging without receipt. (per day)

If reimbursement for lodging is requested and not documented by a receipt, reimbursement will be made in accordance with state regulations governing the reimbursement of lodging expenses for state employees.

74. Consultant mileage rate: Single person (per mile)

Consultant mileage rate includes travel time and is independent of personnel level of individual traveling to and from the site. Includes loading and unloading time at base and site. Note: the mileage rate may not be marked up on a company-owned vehicle. A

rental price and additional mileage charges for a company-owned vehicle may be eligible if the total cost of both is less than the established mileage cost ceiling.

75. Consultant mileage rate: Two or more persons (per mile)

Consultant mileage rate includes travel time and is independent of personnel level of individuals traveling to and from the site. Includes loading and unloading time at base and site. Note: the mileage rate may not be marked up on a company-owned vehicle. A rental price and additional mileage charges for a company-owned vehicle may be eligible if the total cost of both is less than the established mileage cost ceiling.

76. Small Items**:** (per day)

There are quite a few small items that may be used during a release investigation and cleanup. It is very difficult to account for some of these minor items that range in costs from $0.05 to $5.00 each. This cost accounts all various small consumable items used during a day of field activity including, but not limited to gloves, distilled water, ropes, tape, soap, twine, buckets, paint, warning tape, film and facsimiles.

F. Equipment – to be developed for discussion at September meeting